

Missouri Heart Disease and Stroke Plan 2012 – 2018

Development of this plan was facilitated by the Missouri Heart Disease and Stroke Program at the Missouri Department of Health and Senior Services (DHSS) along with the Heart Disease and Stroke Partnership* and its workgroups including the Steering Committee, the Quality Health Care Workgroup, the Worksite Partner Collaboration Workgroup and the Sodium Knowledge in Practice Workgroup as well as representatives from the Missouri Million Hearts Collaboration. In addition, the framework of this plan was developed by a Chronic Disease State Plan Workgroup consisting of key internal and external partners. See *Acknowledgments* for a full listing of these memberships.

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The Heart Disease and Stroke Partnership is a group of statewide stakeholders who assist the heart disease and stroke prevention and control initiatives (Missouri Heart Disease and Stroke Program and Missouri WISEWOMAN Program) funded through the Centers for Disease Control and Prevention Division of Heart Disease and Stroke Prevention grants awarded to DHSS with statewide planning, implementing interventions and leveraging resources to increase efficiency of program and partner efforts.*

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Table of Contents

Introduction

Chronic Disease Integration in Missouri

Burden of Heart Disease and Stroke in Missouri

Chapter 1: Planning

Chapter 2: Environmental Approaches

Chapter 3: Health System Interventions

Chapter 4: Community-Clinical Linkages

Chapter 5: Epidemiology and Surveillance

Acknowledgments

References and Resources

Introduction

Vision: Healthy Hearts – Stroke Smart Missourians

Mission: To promote leadership and foster collaboration to prevent and reduce the effects of heart disease and stroke among all Missourians.

Overall Goal: To reduce heart attacks and strokes in Missourians in alignment with the national Million Hearts™ initiative*.

Heart disease is the number one killer in Missouri and in the United States (US). Missouri's age-adjusted death rate is significantly higher than the national rate. African-Americans have a significantly higher heart disease mortality rate than whites. Stroke is the fourth leading killer in the state and Missouri's stroke age-adjusted death rate is also significantly higher than the national rate. High blood pressure is the main risk factor for stroke and one of the major risk factors for heart disease. In the past ten years, the prevalence of high blood pressure increased significantly in Missouri. The racial disparity between African-Americans and whites has also increased. A more comprehensive burden overview can be found in *Burden of Heart Disease and Stroke in Missouri* commencing on page seven.

What is being done to address this problem? In 1996, state general revenue dollars were made available to address the cardiovascular health disparities for minorities living in Kansas City, St. Louis City and the Bootheel region of the state. In 1998, the US Congress provided funding for the CDC to initiate a national, state-based cardiovascular health program with funding for eight states. Missouri received capacity building grant funds in October 1998. In October 2000, Missouri became just one of four states to receive funding at the Basic Implementation level. The Cardiovascular Health Program focused on health promotion, primary and secondary prevention of heart disease and stroke in regard to the risk factors of high blood pressure, high blood cholesterol, diabetes, tobacco use, physical inactivity, poor nutrition and overweight/obesity.

The Million Hearts™ initiative is a national initiative to prevent one million heart attacks and strokes over five years. Million Hearts™ brings together communities, health systems, nonprofit organizations, federal agencies and private-sector partners from across the country to fight heart disease and stroke.*

<http://millionhearts.hhs.gov/index.html>

In 2002, the emphasis of the CDC grant moved to the prevention of initial and recurrent events, knowledge of the signs and symptoms of heart attack and stroke and the control of high blood pressure and cholesterol. This focus continued into the 2008 cooperative agreement although blood pressure and cholesterol control came into sharper focus during that grant cycle and the *ABCS of Heart Disease and Stroke Prevention* (see next page) were introduced.

The current program focus at the national level is to address the *ABCS of Heart Disease and Stroke Prevention* (see below), with the main focus on preventing and controlling high blood pressure and reducing sodium intake. Efforts to address the *ABCS* include:

- Aspirin: Increase low dose aspirin therapy according to recognized prevention guidelines.
- Blood pressure: Prevent and control high blood pressure; reduce sodium intake.
- Cholesterol: Prevent and control high blood cholesterol.
- Smoking: Increase the number of smokers counseled to quit and referred to State quit lines; increase availability of no or low-cost cessation products.

The Missouri Heart Disease and Stroke Program is addressing the national priorities, conducting program evaluation and using those results to guide planning efforts. This plan expands that work, leveraging the progress made with the most recent Heart Disease and Stroke Program's grant award that covered fiscal years 2008 through 2013. The following *Missouri Heart Disease and Stroke Plan* was developed with input from over 50 external partners, numerous internal partners and describes strategies throughout the State involving the Program and its partners to address the *ABCS of Heart Disease and Stroke Prevention*. The success of the plan depends on partners from a wide range of organizations working together to implement various aspects of the plan. These partners are identified throughout the plan.

This plan uses goals, objectives, strategies and action steps which are time-driven as follows:

- Short-term – years 2012 through 2014
- Mid-term – years 2015 through 2016
- Long-term – years 2017 through 2018

The intended audiences for this plan are public health and health care professionals in the cardiovascular and primary care fields, policy-makers and all other stakeholders who can help design implement and sustain initiatives of the plan.

Chronic Disease Integration in Missouri

Organizational Structure

Within the DHSS, the Section for Community Health and Chronic Disease Prevention (CHCDP) consists of two Bureaus and several programs and initiatives:

Bureau of Cancer and Chronic Disease Control (CCDC):

- Arthritis and Osteoporosis
- Asthma Prevention and Control
- Diabetes Prevention and Control
- Heart Disease and Stroke
- Organ and Tissue Donation
- Show-Me Healthy Women (Breast and Cervical Cancer Control)
- WISEWOMAN
- Comprehensive Cancer Control
- School Health

Bureau of Community Health and Wellness:

- Obesity Initiative
- Comprehensive Tobacco Control
- Healthy Communities
- Team Nutrition
- Adolescent Health
- Injury / Violence Prevention
- Safe Kids Coalition

Missouri Coordinated Chronic Disease Plan

In January 2012, the DHSS launched a planning process to enhance coordination of chronic disease prevention and health promotion activities statewide. Members of the multi-stakeholder Chronic Disease State Plan Workgroup participated in multiple discussions to recommend strategies that could build a statewide infrastructure for interventions and policies to achieve measurable improvements across the leading chronic diseases – arthritis, asthma, cancer, diabetes, heart disease and stroke. Aligned with analysis from the Institute of Medicine and advice from the CDC, the Workgroup was guided by two simple principles – (1) support people to live well, regardless of their chronic illness or current state of health and (2) dissolve boundaries between categorical (aka, condition-specific) program activities. Informed by surveillance data, the Workgroup built this plan from a foundation of prior work led by DHSS over the past three years, including the *Integrated Chronic Disease Prevention & Management: Framework for Strategic Planning*.

Strategies were developed within five broad domain areas: (1) planning, (2) environmental approaches, (3) health system interventions, (4) community-clinical linkages and (5) epidemiology and surveillance. The Workgroup ultimately selected Action Steps under each strategy to guide statewide activity. The actions are specific, measureable items that, when accomplished, would advance Missouri's capabilities to implement an efficient, coordinated, public health approach to chronic disease. The resulting product is called, *On Common Ground for Health, Our Coordinated Efforts to Prevent and Manage Chronic Disease in Missouri*.

Five Strategy Areas for Missouri Chronic Disease Coordination

- (1) planning
- (2) environmental approaches
- (3) health system interventions
- (4) community-clinical linkages
- (5) epidemiology and surveillance

Heart Disease and Stroke Plan

The *Heart Disease and Stroke Plan* begins with and builds upon this coordinated plan. Each domain from the coordinated plan aligns with a chapter in this plan. The strategies aligning with the coordinated plan are the starting point for each chapter and are each designated as a Coordinated Chronic Disease Strategy. The *Heart Disease and Stroke Plan* then adds additional strategies specific to the *ABCS of Heart Disease and Stroke Prevention* which are each designated as an ABCS Strategy. There is also explicit alignment between this plan and other Missouri chronic disease management and prevention state plans such as diabetes, obesity, tobacco and cancer programs.

Achieving Health Equity

Achieving health equity results in enhanced quality of care and reduced costs due to improved communication between providers and patients. Enhanced communication improves patient adherence to prescribed diagnostics and therapy and fosters self-management of chronic conditions. Health system performance and efficiency is improved due to a reduction in medical errors and improved use of costly technology and resources. Achieving health equity improves health literacy ensuring that all patients have the skills to make optimal health decisions on their own behalf. Finally, efforts to achieve health equity impact the economy. Achieving health equity will result in a healthier workforce thereby improving productivity and reducing absenteeism in the workforce. Over the course of the next year and beyond, DHSS intends to utilize the *Organizational Self-Assessment for Addressing Health Inequities Toolkit* which provides public health leaders with tools and guidelines that help identify the skills, organizational practices and infrastructure needed to address health equity and provide insights into the steps which can be taken to ensure DHSS can have an impact on the issue of health equity.

Burden of Heart Disease and Stroke in Missouri

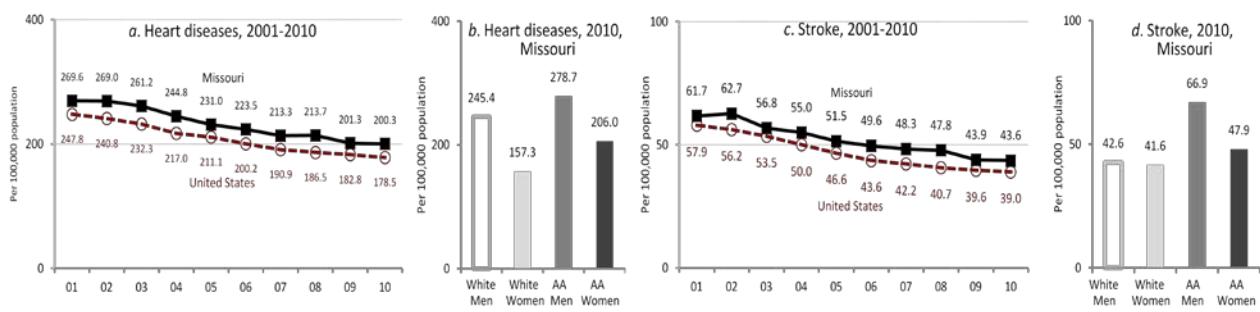
Summary

The health and economic costs of heart disease and stroke in Missouri are tremendous. Heart disease was the first, and stroke, the fourth leading causes of death in Missouri in 2010. Missouri has a higher burden of heart disease and stroke, as demonstrated by higher morbidity and mortality rates than the nation. The burden of these two categories of diseases is likely to grow as Missouri's population ages and also because of the increasing prevalence of risk behaviors and chronic diseases/conditions that increase the risk of heart disease and stroke. According to the 2010 Census, about 14 percent of Missouri's population were 65 years of age or older, compared to 13 percent in the US. In addition, Missouri's prevalence of smoking, physical inactivity, obesity, hypertension, high cholesterol and diabetes are all higher than that in the US. Furthermore, the prevalence of obesity, hypertension and diabetes are increasing significantly over time in Missouri, and at a faster pace than the US. While health data is available for the two largest racial groups, African American and whites, this data for other racial/ethnic populations is limited in Missouri.

Heart Disease and Stroke Mortality

Heart disease and stroke were the first and fourth leading causes of death in Missouri in 2010, accounting for 31.2 percent of total deaths. Parallel to the US, the age-adjusted death rate for heart disease has decreased significantly in Missouri in the last decade. However, Missouri's rates have been consistently higher than the US rates (see fig. 1a). In Missouri, African-American men had a higher death rate than other racial and gender groups in 2010 (see fig. 2b). From 1999 to 2009, Washington County had the highest heart disease death rate (381.6 per 100,000 population) among 114 counties and the City of St. Louis, followed by Mississippi County (363.8 per 100,000 population) and Pemiscot County (361.0 per 100,000 population).

Figure 1. Age-adjusted death rates of heart diseases and stroke, Missouri and United States, 2001-2010



Source: Missouri Information for Community Assessment, <http://health.mo.gov/data/mica/DeathMICA/>; CDC Wonder, <http://wonder.cdc.gov/>. AA: African-American.

The age-adjusted death rate for stroke also decreased significantly in Missouri in the last decade; however, Missouri's rates have again been consistently higher than the US rates (see fig. 1c). In Missouri, African-American men had a higher death rate from stroke than other racial and gender groups in 2010 (see fig. 1d). From 1999 to 2009, Dunklin County had the highest death rate (85.9 per 100,000 population) among all counties, followed by Henry County (79.8 per 100,000 population) and Lawrence County (79.7 per 100,000 population).

Heart Disease and Stroke Emergency Room Visit and Hospitalization Rates

In 2010, the age-adjusted emergency room visit rate for heart disease was 14.6 per 1,000 population in Missouri, which increased significantly from 12.2 per 1,000 population in 2000. African-American women had a higher rate than other racial and gender groups. The age-adjusted hospitalization rate for heart disease was 132.7 per 10,000 population in 2010, a significant decrease from 168.3 per 10,000 population in 2000. Among all racial and gender groups, African-American men had the highest hospitalization rate. In 2010, heart disease led to \$3.2 billion in hospital charges (see Table 1), including \$2 billion in charges to Medicare and \$253 million in charges to Medicaid.

Table 1. Emergency room visits, inpatient hospitalization, death and hospital charges of heart disease and stroke, Missouri, 2010

Disease	Burden	Number	Rate ^a			
			Missouri	White men	White women	AA men ^b
Heart disease	Emergency room visits ^c	89,673	14.6	12.7	13.4	22.2
	Inpatient hospitalization ^c	89,061	132.7	147.3	104.2	205.7
	Death ^c	13,741	200.3	245.4	157.3	278.7
		Hospital charge (dollars) ^c				
Stroke	Emergency room visits ^c	5,135	0.8	0.8	0.7	0.7
	Hospitalization ^c	20,104	29.7	29.7	25.6	49.3
	Death ^c	2,979	43.6	42.6	41.6	66.9
		Hospital charge (dollars) ^c				

^aEmergency room visits, per 1,000 population; inpatient hospitalization, per 10,000; death, per 100,000.

^bAA, African-American.

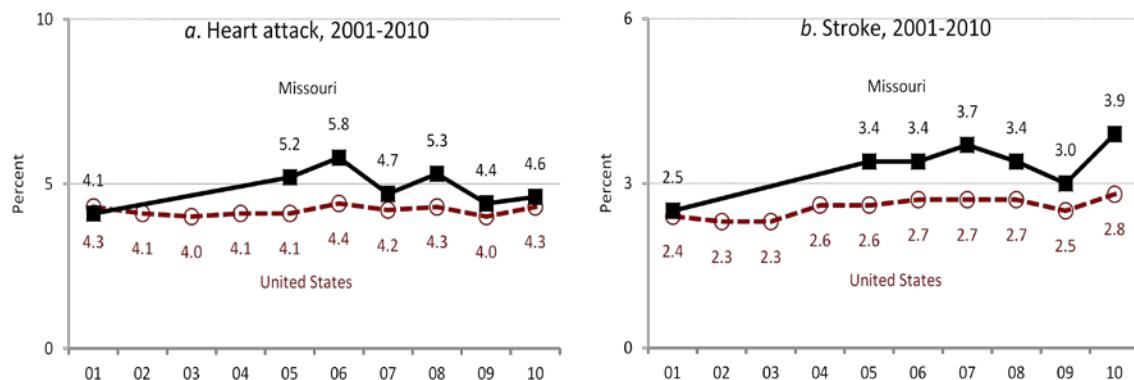
^cSource: Missouri Information for Community Assessment (<http://health.mo.gov/data/mica/MICA/>).

In Missouri, the age-adjusted emergency room visit rate for stroke remained at 0.8 per 1,000 population from 2000 to 2010. The rate was not significantly different among racial and gender groups. In addition, the age-adjusted hospitalization rate for stroke also decreased significantly from 35.7 per 10,000 population in 2000 to 29.7 per 10,000 in 2010. African-American men had the highest hospitalization among the four racial and gender groups. In 2010, stroke incurred \$647.3 million in hospital charges (see Table 1), \$404.5 million to Medicare and \$64.1 million to Medicaid.

Prevalence of Heart Attack and Stroke Survivors

In 2010, the prevalence of heart attack survivors was 4.6 percent in Missouri, an increase from 4.1 percent in 2001. Missouri's prevalence has been higher than the US prevalence since 2005 (see fig. 2a). In Missouri, the prevalence was higher among African-American men than among other racial and gender groups. The prevalence increases with age and decreases as education or household income level increases. The southeast region had the highest prevalence among all regions in Missouri (see Table 2).

Figure 2. Prevalence of heart attack and stroke, Missouri and United States, 2001-2010



Source: Behavioral Risk Factor Surveillance System, http://www.cdc.gov/brfss/technical_infodata/surveydata.htm

Table 2. Prevalence of adults with heart attack or stroke, Missouri, 2010

	Heart attack (%)	Stroke (%)	Heart attack (%)	Stroke (%)
Race and gender			Income (\$)	
White men	6.1	3.3	14,999 or less	11.9
White women	2.8	4.3	15,000-25,000	8.9
African-American men	7.4	2.0	25,000-50,000	4.2
African-American women	3.1	4.4	50,000+	2.1
Age (year)			Region	
18-44	0.5	0.8	Central	3.6
45-54	3.9	4.1	Kansas City	4.3
55-64	7.5	5.4	Northeast	5.8
65+	13.4	10.3	Northwest	4.9
Education			Southeast	8.6
Less than high school	9.8	7.1	Southwest	5.0
High school	6.2	4.8	St. Louis	3.5
Some post-high school	3.5	3.6		
College graduate	2.2	1.9		

Source: Behavioral Risk Factor Surveillance System (http://www.cdc.gov/brfss/technical_infodata/surveydata.htm).

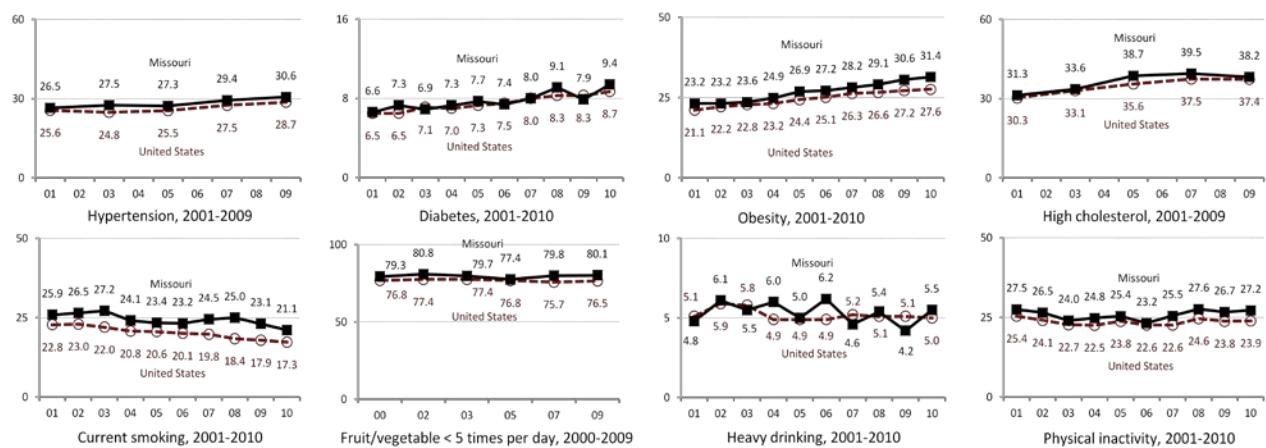
In 2010, the prevalence of stroke survivors in Missouri was 3.9 percent, which increased from 2.5 percent in 2001. Missouri's stroke survivor prevalence has also been higher than the US since 2005 (see fig. 2b). In Missouri, African-American women had the highest prevalence among all racial and gender groups. Similar to heart disease, the prevalence increases with age and decreases as education and income levels increase. Again, the prevalence was highest in the southeast region of the state (see Table 2).

Risk factors

Major risk factors for cardiovascular diseases include diseases/conditions (obesity, high blood pressure, high blood cholesterol and diabetes), modifiable risk behaviors (smoking, physical inactivity and unhealthy diet) and non-modifiable risk factors (age, sex, race and family history). Controlling the modifiable risk factors and being aware of the non-modifiable risk factors could substantially reduce the risk of heart disease and stroke.

From 2001 to 2010, the prevalence of obesity has increased significantly from 23.4 percent to 31.4 percent in Missouri, or about 0.8 percentage points per year. During this period, the prevalence of hypertension and diabetes also increased significantly at about 0.5 and 0.3 percentage points per year, respectively, in Missouri. Meanwhile, the prevalence of current smoking decreased significantly from 25.9 percent in 2001 to 21.1 percent in 2010, about 0.5 percentage points per year. The prevalence of low fruit-and-vegetable intake, heavy drinking and physical inactivity did not change significantly during this period. The prevalence of obesity, high blood pressure, high blood cholesterol, current smoking and physical inactivity has been consistently higher in Missouri than in the US in the last decade (Figure 3).

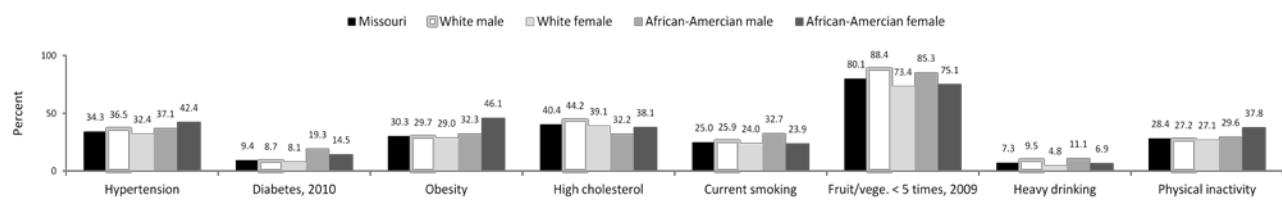
Figure 3. Prevalence (percent) of risk factors for heart disease and stroke, Missouri and United States, 2000-2010



Source: Behavioral Risk Factor Surveillance System, http://www.cdc.gov/brfss/technical_infodata/surveydata.htm

In 2011, 34.3 percent of adult Missourians had hypertension; 10.7 percent had diabetes; 30.2 percent were obese; 40.4 percent had high blood cholesterol; and 80.1 percent ate fruit-and-vegetable less than 5 times per day (2009). The prevalence of these risk factors were higher in Missouri than in the US. Among race and gender groups in Missouri, African-American men had the highest prevalence of diabetes, current smoking and heavy drinking, while African-American women had the highest prevalence of hypertension, obesity and physical inactivity. White men had the highest prevalence of low fruit-and-vegetable intake and White women had the highest prevalence of high blood cholesterol (see fig. 4).

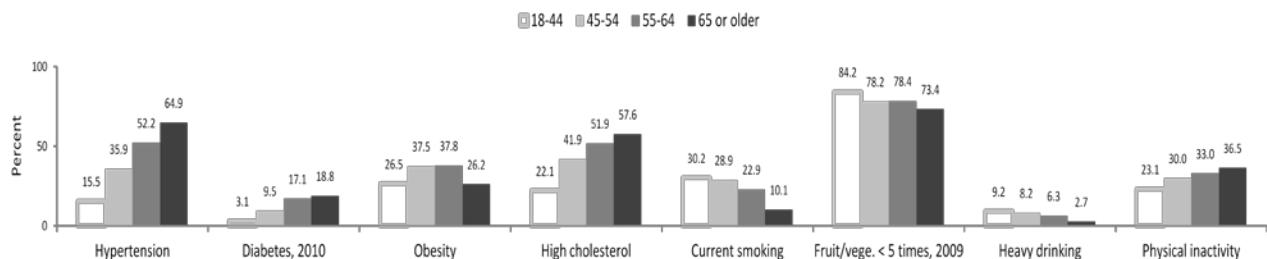
Figure 4. Prevalence of risk factors for heart disease and stroke, by race and gender, Missouri, 2011



Source: Behavioral Risk Factor Surveillance System, http://www.cdc.gov/brfss/technical_infodata/surveydata.htm

Among age groups, people age 65 years and older had the highest prevalence of hypertension, diabetes, high blood cholesterol and physical inactivity, while people age 18-44 years had the highest prevalence of current smoking, low fruit-and-vegetable intake and heavy drinking. The prevalence of obesity was highest in the age group 55-65 (see fig. 5).

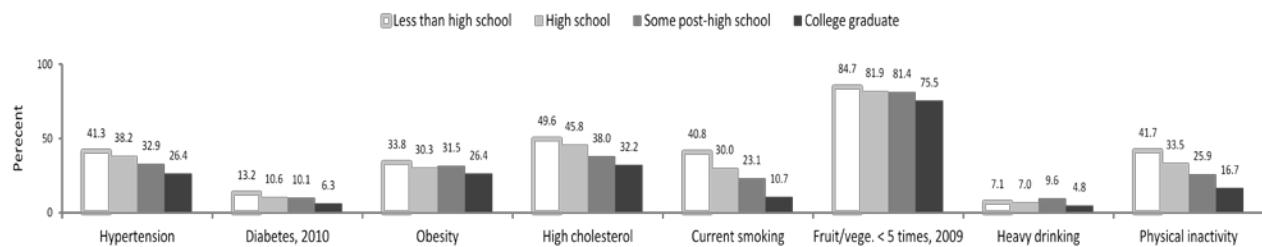
Figure 5. Prevalence of risk factors for heart disease and stroke, by age, Missouri, 2011



Source: Behavioral Risk Factor Surveillance System, http://www.cdc.gov/brfss/technical_infodata/surveydata.htm

The prevalence of hypertension, diabetes, high blood cholesterol, current smoking, low fruit-and-vegetable intake and physical inactivity decreased as the education level increased. Adults with less than a high school education had the highest prevalence of all the risk factors, except for heavy drinking, which was highest among those with some post-high school education (see fig. 6).

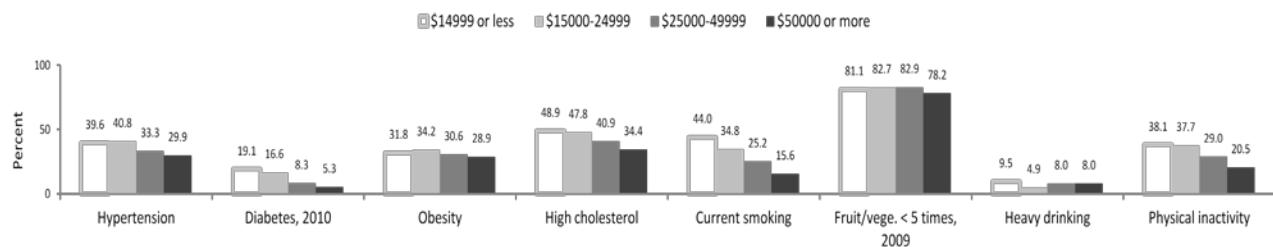
Figure 6. Prevalence of risk factors for heart disease and stroke, by education, Missouri, 2011



Source: Behavioral Risk Factor Surveillance System, http://www.cdc.gov/brfss/technical_infodata/surveydata.htm

The prevalence of high blood cholesterol, diabetes, current smoking and physical inactivity decreased as the household income level increased. Adults with a household income of \$14,999 or less had the highest prevalence of diabetes, high cholesterol, current smoking, heavy drinking and physical inactivity. The prevalence of low fruit-and-vegetable intake varied little as the household income level increased (see fig. 7).

Figure 7. Prevalence of risk factors for heart disease and stroke, by household income, Missouri, 2011



Source: Behavioral Risk Factor Surveillance System, http://www.cdc.gov/brfss/technical_infodata/surveydata.htm

Populations with higher burden of cardiovascular diseases and risk factors

Morbidity and mortality data indicate the populations with highest burden of cardiovascular diseases in Missouri are 1) African-Americans, 2) seniors age 65 years and older, 3) adults with less than a high school education or household income lower than \$15,000, 4) adults in Mississippi County for heart disease, Dunklin County for stroke and the Bootheel area overall for both diseases. Data from the risk factors demonstrate that the highest prevalence of the risk factors also occurs mainly in these subpopulations, except for smoking and heavy drinking, which are more prevalent among younger adults (see Table 3).

Table 3. Population with the highest burden of heart disease and stroke, Missouri, 2010-2011

	Population with highest burden				
	Heart disease		Stroke		
Prevalence ^a (2010)	AA men ^b , ≥65 years, < high school education, <\$15000, Southeast region			AA women, ≥65 years, < high school education, <\$15000, Southeast region	
Emergency room visits (2010)	AA women			White men, AA men	
Hospitalizations (2010)	AA men			AA men	
Death (2010)	AA men, Mississippi county			AA men, Dunklin county	
Prevalence of risk factor (2011)					
Hypertension	AA women	≥65 years	< high school education	\$15000-24999	
Diabetes	AA men	≥65 years	< high school education	<\$15000	
Obesity	AA women	55-64 years	< high school education	\$15000-24999	
High cholesterol	White men	≥65 years	< high school education	<\$15000	
Current smoking	AA men	18-44 years	< high school education	<\$15000	
Heavy drinking	AA men	18-44 years	some post-HS education	<\$15000	
Physical inactivity	AA women	≥65 years	< high school education	<\$15000	

^aFor prevalence, heart disease includes only heart attack.

^bAA: African-American.

Chapter 1

Strategy Area #1

Planning

Goal – Priorities for population-based health improvement are focused on equity among diverse socio-economic groups.

Objective 1.1

By 2014, build infrastructure to address population-based health improvement focused on equity among diverse socio-economic groups.

Coordinated Chronic Disease Strategy 1.1.1 – Communication

Establish a centralized communication channel for information about chronic disease prevention and management among stakeholders statewide.

Action Steps

- Develop common contact database of stakeholders from categorical programs (short-term).
- Develop and begin implementation of social networking strategy to link stakeholders (short-term).
- Increase number of stakeholders linked through social network tools (short-term).

Partners

- Section for Community Health and Chronic Disease Prevention – Lead

- Bureau of Cancer and Chronic Disease Control
- Bureau of Community Health and Wellness

Coordinated Chronic Disease Strategy 1.1.2 – Leadership

Establish a coordinating council, drawn from existing partnerships, to inform and guide evidence-based planning for chronic disease prevention and management.

Action Steps

- Establish a chronic disease coordinating council drawn from existing partnerships (short-term).
- Develop and implement method for routine collection of input from diverse people with chronic disease to inform community health improvement efforts (short-term).
- Publish menu of evidence-based interventions for communities to use for local planning (short-term).

Partners

- Section for Community Health and Chronic Disease Prevention – Lead
- Bureau of Cancer and Chronic Disease Control
- Bureau of Community Health and Wellness

Objective 1.2

Through 2018, continue to work with and through partnerships to plan, implement and evaluate heart disease and stroke initiatives focused on equity among diverse socio-economic groups.

ABCS Strategy 1.2.1 – Partnership

Enhance Heart Disease and Stroke Program effectiveness, foster collaboration and align resources through strong statewide partnerships.

Action Steps

- Continue to recruit new partners to the Heart Disease and Stroke Partnership and the Missouri Million Hearts Collaboration (ongoing).
- Provide training of partners (ongoing).
- Conduct strategic communications with partners (ongoing).

Partners

- Heart Disease and Stroke Program
- Missouri WISEWOMAN Program
- Heart Disease and Stroke Partnership

Chapter 2

Strategy Area #2

Environmental Approaches

Goal – Environmental and social factors support individuals engaging in healthy living.

Objective 2.1

By 2014, increase from baseline Missourians' healthy behaviors related to physical activity, fruit-and-vegetable intake and smoking by two percent.

Baseline – 2011 BRFSS: (physical inactivity: 28.4 percent; five or more daily servings of fruits-and-vegetables: 14.1 percent; current smoking: 25 percent)

Coordinated Chronic Disease Strategy 2.1.1 – Worksite Wellness

Build capacity among employers to adopt wellness programs targeting physical activity, healthy eating and tobacco free living.

Action Steps

- Assemble stakeholders from at least three categorical programs to develop coordinated worksite strategy (short-term).
- Complete baseline assessment of wellness programs offered by representative sample of employers in the state (short-term).
- Launch website with health education and other tools for human resource

professionals to use for wellness program development and implementation (short-term).

- Offer training program for employers that are increasing investment in worksite wellness programs (short-term).

Partners

- Bureau of Community Health and Wellness – Lead
- Bureau of Cancer and Chronic Disease Control
- Section for Community Health and Chronic Disease Prevention

Coordinated Chronic Disease Strategy 2.1.2 – Activate Change Agents

Activate individuals and organizations to change environmental factors associated with physical activity, healthy eating and tobacco free living.

Action Steps

- Increase use of key messages and materials that inform the public about the association between environmental factors and physical activity, healthy eating and tobacco free living (short-term).
- Increase number of municipalities adopting comprehensive smoke-free ordinances (short-term).
- Increase number of communities in the state that adopt ordinances or policies for safe alternate transportation modes (short-term).
- Increase the percentage of adults who report healthy foods are easy to

purchase in their neighborhood (short-term).

Partners

- Bureau of Community Health and Wellness – Lead
- Bureau of Cancer and Chronic Disease Control
- Section for Community Health and Chronic Disease Prevention
- Missouri Council for Activity and Nutrition (MOCAN)

ABCS Strategy 2.1.3 – Second-hand Smoke

Advance policies that reduce exposure to environmental tobacco smoke.

Action Steps

- Advocate for legislation for a tobacco-free Missouri (short-term).
- Increase the number of Missouri communities that implement comprehensive smoke free policies for all workplaces, including restaurants and bars (short-term).
- Increase awareness among community officials of the benefits of creating tobacco-free environments (short-term).

Partners

- Tobacco Free Missouri – Lead
- Comprehensive Tobacco Control Program
- Heart Disease and Stroke Program
- American Heart Association
- American Cancer Society
- American Lung Association
- Missouri Local Public Health Association

Tobacco Free Missouri (TFM) is a statewide group of concerned individuals and organizations from all backgrounds and walks of life. Some are former smokers and some are working to help friends and loved ones quit. The group is working to improve clean air access for everyone and reduce tobacco use and second hand smoke. Since 2007, TFM has been working with partners across the state to support communities and individuals working on cessation and other tobacco control policy efforts.

Goal – Environmental and social factors support individuals in controlling high blood pressure.

Objective 2.2

By 2018, increase the percentage of Missourians who have achieved blood pressure control from 60.29 percent to 65 percent.

Baseline – 2010 Healthcare Effectiveness Data and Information Set (HEDIS)

ABCS Strategy 2.2.1 – Heart Healthy Worksites

Develop and implement Healthy Hearts at Work initiative that coordinates wellness programs, benefit design and corporate policies to promote high blood pressure control.

Action Steps

- Enroll 30 worksites representing residents of St. Louis City into the Healthy Hearts at Work initiative (short-term).
- Assess Healthy Hearts at Work employers' current high blood pressure

- health care provider benefit design and communicate them to employees (short-term).
- Implement new environmental supports in participating worksites that support employee blood pressure and cholesterol management and control (short-term).
- Provide technical assistance for employers in the Healthy Hearts at Work initiative in implementing policies and environmental supports (short-term).
- Implement a communication method that provides a link between employers, employees and health plans, promotes information exchange on high blood pressure management and assists employees to self-manage their high blood pressure (short term).
- Evaluate and if feasible, expand the initiative to additional worksites (mid-term).
- Work with corner stores to increase knowledge of sodium and intent to offer lower sodium foods (short-term).
- Provide incentives for corner stores to carry healthy foods choices (short-term).
- Coordinate activities with Community Transformation Grant grantee in that area to augment and not duplicate efforts (short-term).
- Implement strategic communication plan for targeted area to complement activities (short-term).
- Evaluate and if feasible, expand the initiative to additional communities (mid-term).

Partners

- Heart Disease and Stroke Program – Lead
- Open Health, LLC
- St. Louis Area Business Coalition
- Visiting Nurses Association, St. Louis
- Bureau of Community Health and Wellness

ABCS Strategy 2.2.2 – Low Sodium Options

Increase demand for and availability of low-sodium food options at corner stores within designated areas of metropolitan Kansas City.

Action Steps

Partners

- Sodium Knowledge in Practice Workgroup – Lead
- Kansas City Health Department
- American Heart Association
- Black Health Care Coalition
- Diabetes Prevention and Control Program
- Missouri WISEWOMAN Program
- MOCAN

ABCS Strategy 2.2.3 – Food Environment

(under development 2012)

By 2018, increase from baseline Missourians' healthy behaviors related to sodium intake by ten percent.

Baseline – to be established using 2012 Behavioral Risk Factor Surveillance System (BRFSS) data

Action Steps

- Support the most current implementation strategies of the Institute of Medicine's *Strategies to*

Reduce Sodium Intake in the United States (ongoing).

- Advocate for a resolution to create awareness of the benefits of reducing dietary sodium intake (short-term).
- Use media including earned media to educate the public and decision makers about the relationships of high salt intake and high blood pressure (short-term).
- Partner with MOCAN to develop an action plan to improve the food environment in Missouri (mid-term).

Partners

- Sodium Knowledge in Practice Workgroup – Lead
- Diabetes Prevention and Control Program
- Missouri WISEWOMAN Program
- Bureau of Community Health and Wellness
- MOCAN

Chapter 3

Strategy Area #3

Health System Interventions

Goal – Health care systems deliver evidence-based, coordinated, proactive and equitable services to prevent, detect and control chronic diseases.

Objective 3.1

By 2014, enhance capacity of the health care system to deliver coordinated, proactive and equitable services for people with chronic conditions.

Coordinated Chronic Disease Strategy 3.1.1 – Enhancing EMR Usability

Increase the use of quality improvement methodologies and population management functions (e.g., registries) available through electronic medical record (EMR) systems.

Action Steps

- Develop and begin implementation of an annual assessment of leading health care providers' use of electronic population health management tools for improving chronic care (short-term).
- Develop and publish analysis of payer policies for chronic disease prevention and management services (short-term).

- Form team and provide technical assistance to support health care provider quality improvement efforts (short-term).

Partners

- Section for Community Health and Chronic Disease Prevention – Lead
- Bureau of Cancer and Chronic Disease Control
- Bureau of Community Health and Wellness

Coordinated Chronic Disease Strategy 3.1.2 – Understanding Quality Metrics

Inform public about quality performance metrics of health care providers in chronic disease management, including patient-centered models of care.

Action Steps

- Release publication (e.g., brochure, website) to educate the public about attributes and benefits of patient-centered models of care (short-term).
- Create inventory of quality assessment and measurement projects underway in the state (short-term).
- Develop system for directing consumers to public information about health care provider quality (short-term).

Partners

- Section for Community Health and Chronic Disease Prevention – Lead
- Bureau of Community Health and Wellness
- Bureau of Cancer and Chronic Disease Control

Goal – Disparities in blood pressure and cholesterol control in priority populations are addressed.

Objective 3.2

By 2015, increase the number of rural hospitals providing enhanced discharge services for elevated blood pressure and cholesterol levels from three to ten.

Baseline – Three hospitals participated in pilot project

ABCS Strategy 3.2.1 – Discharge Planning

(a pilot project in 2012)

Establish enhanced rural hospital discharge services related to elevated blood pressure and cholesterol in Missouri regions with provider access shortages.

Action Steps

- Develop a detailed plan for project expansion and identify participating rural hospitals (short-term).
- Establish system linkages with rural hospitals that express interest in enhancing discharge planning services to include elevated blood pressure and cholesterol levels (short-term).
- Provide project-related technical assistance for participating hospitals (ongoing).
- Facilitate collaboration among participating hospitals fostering best practice identification (ongoing).
- Collect and monitor project data to confirm that hospital policies and processes are in place (ongoing).
- Solicit recommendations from hospitals and partners for continuous project improvement (mid-term).

- Expand the initiative to additional hospitals and/or risk factors (mid-term).

Partners

- Heart Disease and Stroke Program – Lead
- Office of Primary Care and Rural Health
- Critical Access Hospitals
- Missouri Association of Free Clinics

Objective 3.3

By 2017, decrease the number of heart attacks and stroke among Missourians by 20,000.

Baseline – National Million Hearts™ Goal; Missouri's portion of one million calculated by 2009 population estimates

ABCS Strategy 3.3.1

Enhance Missouri Millions Hearts strategic partnership to align resources to prevent heart disease and stroke.

Action Steps

- Develop outreach plan for physicians, nurse practitioners and other health care providers (short-term).
- Recruit and train physician champions to promote Missouri Million Hearts initiatives related to the ABCS (short-term).
- Sponsor provider educational session, the “ABCS of Heart Disease and Stroke Prevention” for primary care providers (short-term).
- Develop and conduct ABCS initiatives among Missouri Million Hearts partners (mid-term).

Partners

- Heart Disease and Stroke Program – Lead
- Missouri WISEWOMAN Program

- Comprehensive Tobacco Control Program
- Diabetes Prevention and Control Program
- Missouri Primary Care Association (MPCA)
- Primaris
- Missouri Pharmacy Association

Objective 3.4

By 2013, increase from baseline the number of eligible patients in Community Health Centers (CHC) who receive low-dose aspirin therapy utilizing the United States Preventive Services Task Force (USPSTF) aspirin recommendations for the primary prevention of cardiovascular disease by ten percent.

Baseline – To be established in 2012 through MPCA Reports from CHC data

ABCs Strategy 3.4.1 – Low-dose Aspirin Therapy

Implement change in CHC clinic practices related to low-dose aspirin therapy using USPSTF evidence-based recommendations.

Action Steps

- Sponsor provider educational session, the “ABCs of Heart Disease and Stroke Prevention” for CHC and other primary care providers (short-term).
- Develop and promote webinar on the “ABCs of Heart Disease and Stroke Prevention” for providers in CHCs (short-term).
- Incentivize CHCs who utilize aspirin prompts in clinical practice (short-term).
- Distribute current aspirin guidelines to primary care providers (mid-term).

Partners

- Heart Disease and Stroke Program – Lead
- Missouri Primary Care Association
- Community Health Centers
- University of Missouri Health Care, Department of Neurology

United States Preventive Services Task Force (USPSTF) aspirin recommendations for the primary prevention of cardiovascular disease:

- *Encourage men age 45 to 79 years to use aspirin when the potential benefit of a reduction in myocardial infarctions outweighs the potential harm of an increase in gastrointestinal hemorrhage. (USPSTF “A” recommendation).*
- *Encourage women age 55 to 79 years to use aspirin when the potential benefit of reduction in ischemic strokes outweighs the potential harm of an increase in gastrointestinal hemorrhage. (USPSTF “A” recommendation).*

Goal – Quality improvement initiatives are implemented in health care settings serving disparate populations.

Objective 3.5

By 2014, increase the number of CHCs that become a National Committee for Quality Assurance (NCQA) 2011 Patient Centered Medical Home (PCMH) from seven to 18.

Baseline – Seven CHCs NCQA 2008 PCMH Recognized – 2013 MPCA data

ABCS Strategy 3.5.1 – Medical Home

Support CHCs to become Patient Centered Medical Homes (PCMHs).

Action Steps

- Partner with the Missouri Primary Care Association to expand number of participating CHCs that are a PCMH (short-term).
- Ensure that each participating CHC adopts at least two of the eight components of Patient-Centered Medical Home Assessment (PCMH-A) (short-term).

Partners

- Heart Disease and Stroke Program– Lead
- Diabetes Prevention and Control Program – Co-lead
- Missouri Primary Care Association
- Community Health Centers
- Primaris

ABCS Strategy 3.5.2 – Care Teams

(under development 2012)

Promote PCMH concept across the state by targeting Care Team members (nurses, pharmacists, etc.).

Action Steps

- Develop, identify or adopt train-the-trainer materials and toolkit for use with the Care Teams (short-term).
- Develop a training template and link with changes to Medicare and Medicaid (short-term).

- Introduce Care Teams to specific interventions and how to evaluate impact (short-term).
- Link training materials to patient engagement (short-term).
- Conduct training and provide technical assistance (mid-term).
- Identify and provide resources that physicians and other health care providers could use on their patient portals (mid-term).
- Evaluate impact and develop future plans (long-term).

Partners

- Heart Disease and Stroke Program– Lead
- Missouri Primary Care Association
- Primaris
- Health Literacy Missouri
- Prevention Research Center-St. Louis
- Primary Care Clinics

Objective 3.6

By 2016, increase the percentage of hypertensive patients in CHCs with LDL cholesterol <100 mg/dl from 25.3 percent to 42 percent; increase blood pressure control in these patients from 57.5 percent to 65 percent.

Baseline – MOQuIN data warehouse and reporting system 2012 dashboard reports

ABCS Strategy 3.6.1 – Improve Quality of Care

Increase use of health information technology to improve quality of care.

Action Steps

- Participate on Missouri Quality Improvement Network (MoQUIN) to improve quality of care in CHC patients

with chronic diseases, focusing on cardiovascular disease and diabetes (ongoing).

- Monitor dashboard reports from the MOQuIN data warehouse and reporting system on leading ABCS indicators aligned with Million Hearts™ measures (ongoing).
- Promote use of decision support and electronic reminders for CHCs in use of their EMRs (short-term).
- Monitor quality improvement (QI) plans prepared to address gaps and opportunities for quality improvement and chronic disease management focusing on cardiovascular disease and diabetes within each CHC as well as with partnerships made in the community (ongoing).

Partners

- Heart Disease and Stroke Program – Lead
- Diabetes Prevention and Control Program – Co-lead
- Missouri Primary Care Association
- Community Health Centers

Chapter 4

Strategy Area #4

Community-Clinical Linkages

Goal – Individuals are linked to evidence-based community resources that support their personal efforts to reach optimal health.

Objective 4.1

By 2014, build the capacity to link individuals to community resources that support their personal efforts to reach optimal health.

Coordinated Chronic Disease Strategy 4.1.1 – Referral

Implement systems to drive referrals into chronic disease prevention and management interventions.

Action Steps

- Increase referrals from medical care providers to behavioral support programs for chronic disease self-management, weight reduction and tobacco use cessation (short-term).
- Increase number of evidence-based chronic disease prevention and management services available at the community level (short-term).

Partners

- Bureau of Community Health and Wellness – Lead

- Bureau of Cancer and Chronic Disease Control
- Section for Community Health and Chronic Disease Prevention

Coordinated Chronic Disease Strategy 4.1.2 – Resource Awareness

Provide public access to tailored information about community-based resources for prevention and self-management education.

Action Steps

- Identify organizations in all counties that can serve as a key contact for community-based resources for prevention and self-management education (short-term).
- Develop framework and manual for local public health agencies to inventory, categorize and promote community-based resources for prevention and self-management education (short-term).
- Convene task force of stakeholders to create conceptual design and basic specifications for web-based tool for accessing community-specific resources (short-term).

Partners

- Section for Community Health and Chronic Disease Prevention – Lead
- Bureau of Cancer and Chronic Disease Control
- Bureau of Community Health and Wellness

Goal – Community health care services deliver team-based coordinated, proactive care for people with chronic conditions.

Objective 4.2

By 2018, increase the number of community sustainability plans for the control high blood pressure from five to 25.

Baseline – High Blood Pressure contractors in five areas of Missouri in FY2013.

ABCS Strategy 4.2.1 – Linkages in Communities

Establish linkages between community-based organizations, health care and public health systems to support patients in managing their high blood pressure.

Action Steps

- Work with CHCs to refer patients who smoke and who have cardiovascular disease and/or diabetes to the Missouri Tobacco Quitline for services (short-term).
- Support CHCs to provide and document self-management education (short-term).
- Increase the number of formal agreements between community-based organizations, providers and Local Public Health Agencies to support blood pressure control (short-term).
- Increase the number of community sustainability plans for the control of high blood pressure (short-term).
- Expand initiatives to develop linkages between community-based organizations, health care and public

health systems to additional communities (short-term).

Partners

- Missouri Heart Disease and Stroke Program – Lead
- Heart Disease and Stroke Partnership
- Missouri WISEWOMAN Program
- Comprehensive Tobacco Control Program
- Health Literacy Missouri
- Missouri Primary Care Association
- Prevention Research Center
- Primaris
- Social Welfare Board
- Community-based organizations
- Local Public Health Agencies
- Center for Local Public Health
- Community Health Centers and other primary care clinics

ABCS Strategy 4.2.2 – Expand Role of Pharmacists

(under development 2012)

Leverage use of Missouri pharmacists in team-based care to improve control of blood pressure, cholesterol and/or glucose.

Action Steps

- Establish and strengthen partnerships with key pharmacy associations and organizations to leverage and support the pharmacist's role in patient care management (ongoing).
- Determine existing medication therapy management (MTM) projects or other pharmacist projects currently under way in Missouri that are suitable for collaboration (short-term).
- Explore potential barriers and action pathways (short-term).

- Design plan with partners (short-term).
- Implement the plan (mid-term).
- Evaluate and if feasible, expand the pharmacy initiative to additional communities (long-term).

Partners

- Heart Disease and Stroke Program – Lead
- Diabetes Prevention and Control Program – co-lead
- Missouri WISEWOMAN Program
- University of Missouri Kansas School of Pharmacy
- Missouri Pharmacy Association
- Missouri Medicaid

A Program Guide for Public Health – Partnering with Pharmacists in the Prevention and Control of Chronic Disease states that Heart Disease and Stroke and Diabetes Prevention and Control Programs both have a focus on enhancing the role of community pharmacists in team-based care:

- HDSP Programs Strategies for States to Address the *ABCS of Heart Disease and Stroke Prevention*: “Promote use of pharmacists as health care extenders to promote control of hypertension and high blood cholesterol.”
- DPCP Core Diabetes Interventions and Strategies: “Expand the role of allied health professionals by replicating and scaling evidence-based programs founded on the principles of the Ashville Project and the Diabetes Ten-City Challenge.”

Chapter 5

Strategy Area #5

Epidemiology and Surveillance

Goal – Missouri has surveillance and epidemiological capacity to support programs and interventions that promote healthy living.

Objective 5.1

By 2014, build infrastructure to interpret and utilize data in program planning and evaluation.

Coordinated Chronic Disease Strategy 5.1 – Reporting

Document the burden of chronic disease across the state.

Action Steps

- Disseminate the comprehensive chronic disease burden report documenting trends and disparities in diseases, conditions, risk behaviors, treatment and self-management (short-term).
- Disseminate a report documenting people living with multiple chronic diseases, having shared risk factors and related disparities (short-term).

Partners

- Section for Community Health and Chronic Disease Prevention – Lead
- Office of Epidemiology – Co-Lead

- Bureau of Cancer and Chronic Disease Control
- Bureau of Community Health and Wellness

Coordinated Chronic Disease Strategy 5.2 – Dissemination

Enhance avenues for making chronic disease and health promotion data available for diverse audiences through multiple mediums.

Action Steps

- Assess current DHSS data dissemination systems (e.g., MICA, Profiles) for effectiveness of access and utilization by end users (short-term).
- Propose improvements to current DHSS data dissemination systems (short-term).
- Explore the potential of making data available through new avenues such as social media (short-term).

Partners

- Section for Community Health and Chronic Disease Prevention – Lead
- Bureau of Health Information – Co-Lead
- Office of Epidemiology – Co-Lead
- Bureau of Cancer and Chronic Disease Control
- Bureau of Community Health and Wellness

Coordinated Chronic Disease Strategy 5.3 – Training

Provide training and technical assistance for interpretation and utilization of data in program planning and evaluation.

Action Steps

- Conduct hands-on training for state and local partners to increase utilization of DHSS data dissemination systems (short-term).
- Conduct training programs for state and local partners in data interpretation and utilization to improve program planning and evaluation (short-term).

Progress in accomplishing the actions will be tracked annually, at a minimum, through designated mechanisms or surveillance systems. Heart Disease and Stroke Program staff will determine the updates needed in the implementation and evaluation plan with input from key partners.

The Heart Disease and Stroke Partnership will be provided with annual progress updates and the difficulties encountered in plan implementation. The Partnership will consult on any revisions to the plan on an annual basis.

Partners

- Section for Community Health and Chronic Disease Prevention – Lead
- Bureau of Health Information – Co-Lead
- Office of Epidemiology – Co-Lead
- Bureau of Cancer and Chronic Disease Control
- Bureau of Community Health and Wellness

ABCS Strategy 5.4 – Evaluate

Evaluate the quality of major program components and use evaluation findings as the foundation for program planning, monitoring and improvement.

Evaluation Plan

To accomplish the actions stated in the plan, a work plan will be developed based on identified priorities, feasibility and impact. The work plans will identify detailed steps, time frames, organizational responsibilities and who will be responsible for assuring completion of the work. The evaluation of the plan will build capacity for data analysis of the outcomes.

The implementation and evaluation plan will be reviewed semiannually to determine progress and modify work as necessary.

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